ENERGY SAVING TIPS

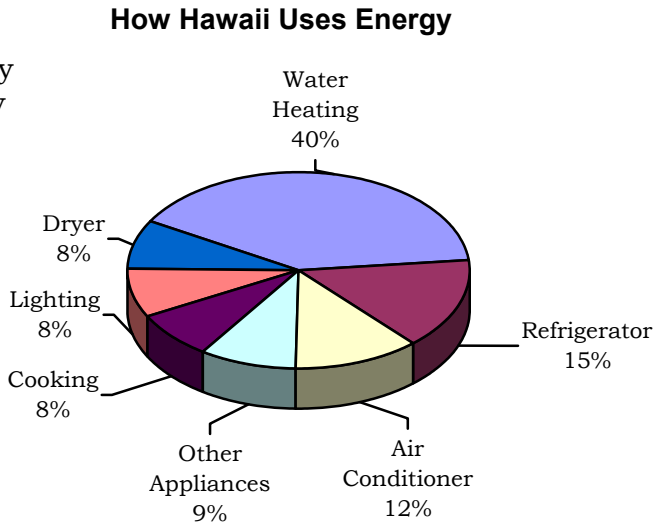
Based on Governor Linda Lingle's Energy Preparedness Action Plan (EPAP)

Residential Energy Saving Tips:

There are many ways to save money on your energy bills by using energy wisely. Some of the easiest steps are turning things off when they're not in use and selecting energy-efficient appliances. Some other areas to look at:

- Cooling Your Home
  - Cool naturally – The most efficient air conditioner in Hawaii is the flow of trade winds through a house. The next most efficient cooler is a ceiling or standing fan. If you must use an air conditioning unit, keep the hours of usage down as low as possible. When purchasing a new unit, select a model with a high "EER" (energy efficiency ratio). High numbers are over 11.
  - Use your shades – Closing drapes and shades will help keep sun out and your home cool.
  - Insulate your roof. For more information, see: http://www.hawaii.gov/dbedt/ert/rf_insul.html

- Water Heaters
  - Water heating is the largest energy expense in Hawaii's homes. It typically accounts for about 40% of your utility bill.
  - Now that outside temperatures are starting to rise with the onset of spring, try setting the thermostat on your water heater to "low" or 120 F. Water at this temperature should be hot enough to meet most household needs. For every 10°F you lower your water heater's temperature, you save up to 11% of your water heating costs. A lower temperature can also increase the life of your water tank.



  - Solar water heaters and heat pumps are very energy-efficient, and there are state tax credits (www.hawaii.gov/dbedt/ert/incentives.html) and utility rebates (www.heco.com) worth hundreds of dollars!

- Lighting
  - Turn off the lights. Though repeated over and over again, this tip saves more energy than most of the others.
  - Use the right bulb. Save energy by choosing bulbs that give the most light (or lumens) for the electricity or watts they use. The most energy-efficient bulb or lamp produces the most lumens per watt. Compact fluorescent bulbs use 75% less energy than typical incandescent bulbs -- and they're cooler.
  - One bulb is better than two. Use one higher wattage bulb instead of several with lower wattage. One 100-watt bulb produces more light than two 60-watt bulbs and uses less power.

- Laundry
  - When you do laundry, you use energy in three ways: to heat the water (if you use the "hot" or "warm" setting); to run the washing machine; and to dry the clothes. The simplest way to reduce your energy use is to wash with cold water (in Hawaii, "cold" isn't really cold, it's usually about room temperature, in the 70s). About 80% to 85% of the energy used for washing clothes is for heating the water. And use the clothesline to dry your clothes instead of the dryer. And finally, if you're in the market for a new, more efficient washer, don't forget to count the savings in water and energy when you compare costs.
  - Wash and dry full loads. If you are washing a small load, use the appropriate water-level setting.
  - Clean the lint filter in the dryer after every load to improve air circulation.
  - Don't over-dry your clothes. If your machine has a moisture sensor, use it.
  - Use the cool-down cycle to allow the clothes to finish drying with the residual heat in the dryer.

- Cooking
  - Microwaves are great energy-savers, while ovens use a tremendous amount of energy. Use microwaves whenever possible.
  - Use a covered kettle or pan to boil water; it's faster and it uses less energy.
  - Match the size of the pan to the heating element.
  - Turn electric stovetop burners off several minutes before the allotted cooking time. The heating element will stay hot long enough to finish the cooking without using more electricity. The same principle applies to oven cooking.

Transportation Energy Saving Tips:
Fuel economy and efficiency are concerns for all of us who drive. There are practices that help in maximizing fuel use which every driver should know.

- Speed
  - A vehicle loses about one percent in fuel economy for each one mile per hour driven above 55 m.p.h. Although this formula should be adjusted for different car models and ages, we could say, for example, that a passenger car which averages 30 miles per gallon at 55 m.p.h. could get 28.5 m.p.g. at 60 m.p.h., 27 m.p.g. at 65 m.p.h., and 25.5 m.p.g. at 70 m.p.h.

- Air Conditioners
  - One of the major factors affecting auto fuel efficiency is the use of an air-conditioner. Its use during a hot summer day can actually decrease mileage by 21 percent. If the temperature is not too hot, it would be economical to use the flow-through air vent instead.

- Idling
  - According to the U.S. Department of Energy, if 145 million passenger vehicles idle for five minutes a day, approximately four million gallons of gasoline are consumed--wasted in staying stationary! Idling is sometimes necessary in traffic jams, but while waiting at drive-in windows, it is more economical to cut the engine if the wait is longer than 30 seconds. Starting up your car again actually uses less gasoline.

- Gasoline and Oil
  - A fuel's octane is the measure of anti-knock properties only and is not an indicator of power or "quality". Most vehicles are engineered to use regular unleaded gasoline, but many people believe using a premium grade will improve their vehicle's performance. Your vehicle Owner's Manual states the correct grade of gasoline to use for optimum performance. Use it to save money. If your vehicle does not have engine knocking, pinging, or engine "run-on" when you turn off the engine, you don't need to purchase a higher octane fuel. It also takes more crude oil to refine a gallon of premium gasoline than to refine regular gasoline. According to the U.S. Department of Energy, if all U.S. drivers bought the correct fuel octane, more than one billion gallons of gasoline could be saved each year.
  - Your choice of engine oil also affects fuel economy and the best type will be recommended in your Owner's Manual. The correct oil will be based on the lowest temperatures expected for the period the oil is in the engine. If you change your vehicle's oil yourself, be sure to dispose of the used oil in the appropriate manner and place.

- General Driving Tips

  These good driving practices can make a significant difference in fuel efficiency:
  - Gentle and steady acceleration can decrease mileage up to 12 percent.
  - A tuned engine is important for proper function of spark plugs, fuel system and emission control. An untuned engine can cause wasted fuel costs of 15% or more.
  - Underinflated tires of approximately 8 pounds (quite common) increases rolling resistance of the tires by 5%. This results in wasted gas.
  - Unbalanced wheels which are only 1/4" out of alignment cause rolling resistance of another 2% wasted fuel and increases tire wear.
  - Awareness of traffic tie-ups and accidents may allow you to take an alternate route. Listen to the radio stations that carry these frequent road condition reports.
  - Avoid special trips. Combine your errands to accomplish more on the same trip.
  - Make an effort to share rides to work, school, church and social activities. You'll make new friends and save valuable fuel.
  - Take the bus to work. Bike to work to save gas and to stay in shape.
  - Get in your car, adjust the mirror, fasten the seat belt, then start the car. Starting the car first wastes millions of gallons of gasoline each year.
  - Shut off your engine and leave the ignition in the accessory mode when using a cell phone.
  - Reserve the big SUV for hauling a large group of people. Use a small vehicle for driving alone around town.

Sources: DBEDT, Hawaiian Electric Company, Edison International, U.S. Department of Energy, American Automobile Association, Maryland Energy Administration.